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10/564,433	01/10/2006	Egbert Classen	2003P00991WOUS	8866

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BSH HOME APPLIANCES CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

STINSON, FRANKIE L

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/564,433
Filing Date: January 10, 2006
Appellant(s): CLASSEN ET AL.

Andre Pallapies
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 13, 2010 appealing from the Office action mailed February 22, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:
Claims 10-13.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

This invention is directed to a typical dishwasher drying circuit which typically includes a condenser, to removed moisture generated during a drying cycle, and a heater to increase the temperature of the air returned to the wash chamber by a blower with the specific novelty being the addition of a heat pipe to the drying circuit. Heat pipes are closed systems and it is old well known the heat pipes have two functioning ends, namely a hot end and a cold end.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5,343,632	DINH	9-1994
5,732,562	MORATALLA	3-1998
2,491,322	DEISS (FRANCE)	4-1982

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:
Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinh (U. S. Pat. No. 5,343,632) in view of France'322 (France 2 491 322) and Moratalla (U. S. Pat. No. 5,732,562).
With Dinh disclosing the device for use with a dishwasher (col. 8, lines 9-10), it is understood, that instead of the drying chamber (234) as discloses in fig. 5, there would

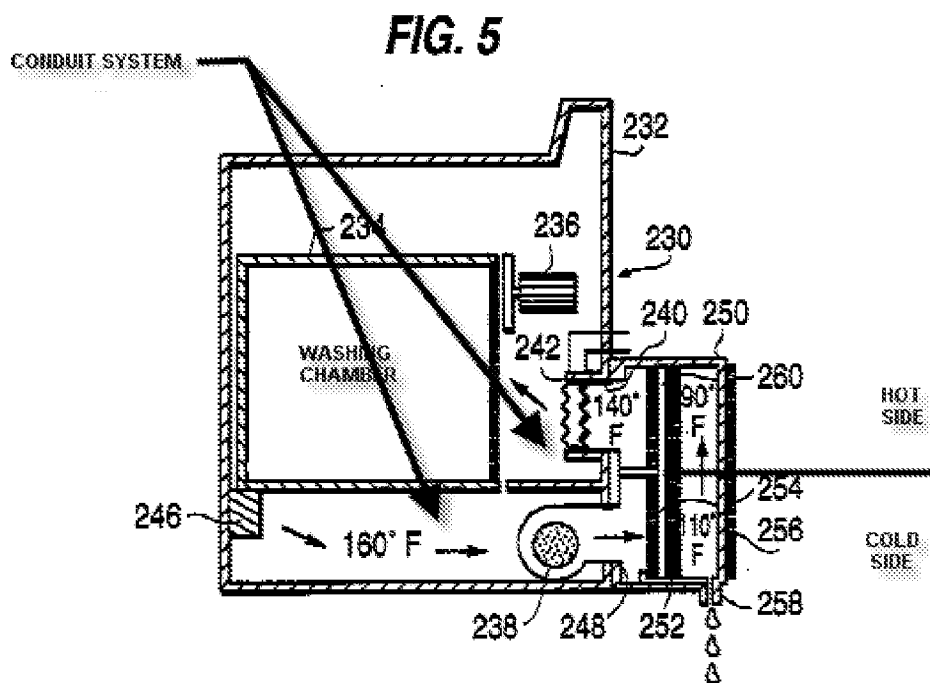
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be a washing chamber as annotated in fig. 5 below, and therefore the following is provided.

Re claim 10, the patent to Dinh is cited disclosing a dishwasher comprising:

a washing chamber; and

a conduit system (see annotated fig. 5 below) connected to the washing chamber in an air-guiding manner such that air is guided from the washing chamber to the conduit system and air is guided from the conduit system to the washing chamber and



the conduit system including a cold side portion (as at 256, see annotated fig. 5) and a hot side portion (as at 260, see annotated fig. 5), and including at least one heat pipe/tube (col. 5, lines 8-36) with heat pipe/tube extending into the cold side portion of the conduit system and into the hot side portion of the conduit system (see annotated

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fig. 5) and the conduit system being operable to guide air from the washing chamber through the cold side portion, whereupon the heat pipe/tube promotes a cooling of air in the cold side portion of the conduit system (col. 7, lines 30-35) with a resultant condensing of moisture (as at 258) out of the cooled air, to thereafter guide cooled air from the cold side portion to the hot side portion, whereupon the heat pipe/tube promotes heating of the air in the hot side portion of the conduit system (col. 7, line 67 thru col. 8, line 5), and to thereafter guide such heated air from the hot side portion to the washing chamber and the heat pipe/tube operating to conduct heat from the cold portion of the conduit system the hot portion of the conduit system with the heat pipe/tube receiving heat from air guided there past at the cold side portion of the conduit system and conducting such received heat to hot side portion that differs from the claim only in the recitation of the basket and the heat tube/pipe having a pair of ends.

France'322 is cited disclosing the dishwasher having a basket as claimed. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the system/arrangement of Dinh, to include a basket as taught by France'322, with no change in their respective function, since it is old and well known to support the dishes in a basket, to ensure the exposure of the dishes to high volumes of wash water, and to aid in the draining of the liquid from the dishes. In regard to the heat pipe/tube having a pair of ends, Moratalla (see fig. 3) is cited disclosing that it is old and well known in an air dehumidification system (see abstract), to provide a heat pipe/tube (185) having a pair of ends, one of the ends (190) of the heat pipe/tube extending portion of a conduit system (170) to promote cooling and the other end (255) of the heat

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pipe/tube extending into a portion of the conduit system to promote heating (255). It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the heat/pipe of Dinh, to include a pair of ends as taught by Moratalla, with no change in their respective function, since Dinh specifically discloses that a "wide variety of heat exchangers could be used" (col. 5 lines 18-19), "the cooler/condenser may be formed by any cooling element" (col. 7, lines 32-33, see MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE). It also would have been obvious for the purpose of increasing the efficiency of the system since it is also old and well known in the art to recover waste heat for preheating. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Re claim 11, Dinh/France'322 disclose the drying cycle. Re claim 12, Dinh as, modified when employed in a dishwasher like that of France'322, discloses the outlet with a pipe (21) communicated with the at least one heat pipe/tube, the at least one heat pipe/tube includes a pipe communicating one end thereof with the other end thereof, and the washing container includes an inlet with a pipe (29) communicated with the at least one heat tube and further comprising a fan (27) arranged in the outlet with the pipe communicating the washing basket with the at least one heat tube, the fan being operable to supply at least some of the air in the washing basket to the conduit system at least temporarily. Re

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claim 13, Dinh, as proposedly modified, discloses the air being cooled by the heat pipe/tube. Re claim 14, Dinh, as proposedly modified, discloses the air being heated by the heat pipe/tube. Re claim 15, Dinh (as at 242), France'322 (as at 28) and Moratalla (as at 265) disclose the heater. Re claim 16-17, Dinh (as at 256) and Moratalla disclose the condenser (200) as claimed.

Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinh in view of UK'035 (United Kingdom 2 059 035), Grover (U. S. Pat. No. 3,865,184), Germany'506 (Germany 31 34 506) or Germany'859 (Germany 29 14 859).

With Dinh and France'322 combined and cited as applied above, note that in regard to claim 19, Dinh is cited a dishwasher comprising:

- a washing basket; and

- a conduit system connected to the washing basket in a closed air system (col. 4, lines 45-55) such that air is guided from the washing basket to the conduit system and air is guided from the conduit system to the washing basket without outside air input,

- the conduit system including a cold side portion (as noted above) and a hot side portion (as noted above) and including at least one heat pipe/tube with the heat pipe/tube extending into the cold side portion of the conduit system, and into the hot side portion of the conduit system,

- the conduit system being operable to guide air in a closed loop from the washing basket through the cold side portion, whereupon the heat pipe/tube promotes a cooling

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of air in the cold side portion of the conduit system with a resultant condensing of moisture out of the cooled air, to thereafter guide cooled air from the cold side portion to the hot side portion, whereupon the heat pipe/tube promotes heating of the air in the hot side portion of the conduit system, and to thereafter guide such heated air from the hot side portion to the washing basket,

the heat pipe/tube operating to conduct heat from the cold portion of the conduit system to the hot portion of the conduit system with the heat pipe/tube receiving heat from air guided therepast at the cold side portion of the conduit system and conducting such received heat that differs from the claim only in the recitation of the heat pipe/tube having a pair of ends as claimed. UK'035 (as at 14, 15), Grover (as at 25, 26), Germany'506 (as at 21, 22) and Germany'859 (see fig. 3) are each cited disclosing that it is old and well known in an air dehumidification system, to provide a heat pipe/tube having a pair of ends, with one of the ends of the heat pipe/tube extending into a cold side portion of a conduit system to promote cooling and the other end of the heat pipe/tube extending into a hot side portion of a conduit system to promote heating as claimed. It therefore would have been obvious to one having ordinary skill in the art, with predictable results, to modify the heat/pipe of Dinh, to include a pair of ends as taught by UK'035, Grover, Germany'506 or Germany'859, with no change in their respective function, since Dinh specifically discloses that a "wide variety of heat exchangers could be used" (col. 5 lines 18-19), "the cooler/condenser may be formed by any cooling element" (col. 7, lines 32-33, see MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE). It also would have been

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obvious for the purpose of increasing the efficiency of the system since it is also old and well known in the art to recover waste heat for preheating. All of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination, (i.e., the combination of known old elements into a single device) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Re claim 20, Dinh (as at 242), UK'035 (as at Germany'506 (as at 11) and Germany'859 (as at 9) disclose the heater. Re claim 21, Dinh (as at 260), UK'035 (as at 10), Germany'506 (as at 10) and Germany'859 (as at 7) disclose the condenser. Re claim 22, Dinh (as at 256), UK'035 (as at 14), Germany'506 (as at 22, see fig. 3) and Germany'859 (see fig. 3) disclose the heat pipe/tube comprising a condenser. Re claim 23, Re claim 21, Dinh, Grover, UK'035, Germany'506, and Germany'859 each disclose the heating and cooling taking place at the same time.

(10) Response to Argument

Appellant argues that, Dinh discloses a dryer which includes a regenerative heat exchanger, however, it should be noted that Dinh also discloses a drying system for use with a dryer *and* a dishwasher (col. 8, lines 6-10), with Dinh further disclosing that “a wide variety of heat exchanger could be used” and specifically states that a “heat pipe” is preferred (col. 5, lines 18-20).

Appellant argues with respect to the Moratalla reference, that the same discloses a system for condition air and further describes the heat exchanger (185) as “heat pipes, plate-to-plate, rotary heat exchangers and the like”, and therefore, Moratalla dose not

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actually disclose the ends of the heat pipe being respectively into a cold side portion and a hot side portion of a conduit system. It is the examiner's position that Moratalla (see fig. 3) does in fact disclose a conduit system (170), where the cold side being that section that includes condenser (200) to cool incoming humid air in order to condense the out the moisture thereof (as at 245). Note that with the heat exchanger (185) being that of a heat pipe, which, in order to operate as intended, includes two functioning ends, namely in Moratalla, a hot end (155) and a cold end (190), this would invariably place the cold end of the heat pipe in the cold side portion and the hot end in the hot side portion.

Also in regard to Appellant's description of the Dinh reference having "complicated heat exchanger structure", Dinh clearly teaches that in references to fig. 5, that "any cooling element" may be used (col. 7, lines 32-33).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/FRANKIE L. STINSON/
Primary Examiner, Art Unit 1711

Conferees:

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 1714

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700